

Switch ON the redundant DRCU
 File: H_FCP_SPI_RDRN.xls
 Author: R. Biggins



Procedure Summary

Objectives

The objective of this procedure is to switch ON the redundant Detector Readout and Control Unit (DRCU)

Summary of Constraints

n/a

Spacecraft Configuration

Start of Procedure

SPIRE is in DPU_ON mode

End of Procedure

SPIRE is in DRCU_ON mode

Reference File(s)

Input Command Sequences

Output Command Sequences

HFSRDRN

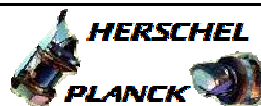
Referenced Displays

ANDs	GRDs	SLDs
SA_7_559		
ZAZ7F999		
SA_6_559		
SA_5_559		
SA_2_559		

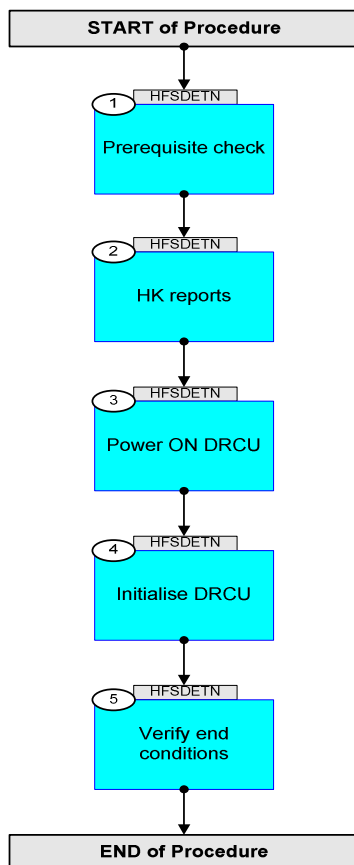
Configuration Control Information

DATE	FOP ISSUE	VERSION	MODIFICATION DESCRIPTION	AUTHOR	SPR REF
07/08/2007		1	Created	R. Biggins	
15/01/2008		2	Update due to initial testing against the simulator: 2 - TCs updated due to new DB	R. Biggins	

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Procedure Flowchart Overview



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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
Beginning of Procedure				
HFSRDRN Switch ON DRCU (red)				
SSID :				
1		Prerequisite check		Next Step: 2
		Verify Telemetry MODE SM00M500	DPU_ON	AND=SA_7_559
2		HK reports		Next Step: 3
	ET=+00.00.00 UT=+00.00.00	CLEAR_HK_REPORT CLEAR_HK_REPORT Command Parameter(s) : PCKTID_CLEARHK SPR6N500 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCR01500 300 <hex>	
	ET=+00.00.00 UT=+00.00.00	CLEAR_HK_REPORT CLEAR_HK_REPORT Command Parameter(s) : PCKTID_CLEARHK SPR6N500 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCR01500 301 <hex>	
		Ensure that the following parameter is not incrementing every second TM2N SMT1N500		AND=SA_7_559
		Ensure that the following parameter is not incrementing every second THSK SM00T500		AND=SA_7_559
		Verify that all telemetry from SPIRE has stopped (APID: 1281, 1283)		
3		Power ON DRCU		Next Step: 4
	ET=+00.00.00 UT=+00.00.00	Execute Telecommand SwOn_SpireHSFCU_R_L52 TC Control Flags : GBM IL DSE --Y -- --- SSID : 10	DC52D170	
		Verify Telemetry SpirHsfR_L52_1s WM72C565	= ON	AND=ZAZ7F999

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry SpireHsfr_L52_I WM708565	> 0.0 A	AND=ZAZ7F999
	ET=+00.00.01 UT=+00.00.01	DEFINE_NEW_HK_REPORT DEFINE_NEW_HK_REPORT Command Parameter(s) : HKPCKTID_DEFINENEWHK SPR0N500 HKSID_DEFINENEWHK SPR1N500 HKINTERVAL_DEFINENEWHK SPR2N500 HKREPEAT_DEFINENEWHK SPR3N500 TABLEID_DEFINENEWHK SPR4N500 TC Control Flags : GEM IL DSE --- -- --- SSID : 370	SCR00500 300 <hex> 300 <hex> 7d0 <hex> 1 <hex> 0 <hex>	
	ET=+00.00.00 UT=+00.00.00	DEFINE_NEW_HK_REPORT DEFINE_NEW_HK_REPORT Command Parameter(s) : HKPCKTID_DEFINENEWHK SPR0N500 HKSID_DEFINENEWHK SPR1N500 HKINTERVAL_DEFINENEWHK SPR2N500 HKREPEAT_DEFINENEWHK SPR3N500 TABLEID_DEFINENEWHK SPR4N500 TC Control Flags : GEM IL DSE --- -- --- SSID : 370	SCR00500 301 <hex> 301 <hex> 3e8 <hex> 1 <hex> 1 <hex>	
		Verify that telemetry from SPIRE has restarted (APID: 1281, 1283)		
	ET=+00.00.02 UT=+00.00.02	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 TC Control Flags : GEM IL DSE --- -- --- SSID : 370	SC001500 8c010001 <hex>	
	ET=+00.00.02 UT=+00.00.02	SET_OBS_MODE SET_OBS_MODE Command Parameter(s) : OBSERVING_MODE SP02N500 TC Control Flags : GEM IL DSE --- -- --- SSID : 370	SC002500 1 <hex>	
		Verify Telemetry MODE SM00M500	= DRCU_START	AND=SA_7_559

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
4		Initialise DRCU		Next Step: 5
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to set Drain Bias Voltage Settings SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84120000 <hex> 0 <hex> (Def)	
		Verify Telemetry PSWJFETSTAT SM20F510	= 0000 <hex>	AND=SA_6_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to set Drain Bias Voltage Settings SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84130000 <hex> 0 <hex> (Def)	
		Verify Telemetry PMLWJFETSTAT SM80F510	= 0000 <hex>	AND=SA_6_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetPSW JFET Source Voltage (Ch 1) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84050000 <hex> 0 <hex> (Def)	
		Verify Telemetry PSWJFET1V SM20V510	= 0.00 V	AND=SA_5_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetPSW JFET Source Voltage (Ch 2) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84060000 <hex> 0 <hex> (Def)	

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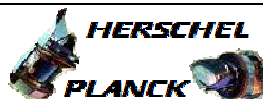
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry PSWJFET2V SM21V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetPSW JFET Source Voltage (Ch 3) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 VERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84070000 <hex> 0 <hex> (Def)	
		Verify Telemetry PSWJFET3V SM22V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetPSW JFET Source Voltage (Ch 4) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 VERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84080000 <hex> 0 <hex> (Def)	
		Verify Telemetry PSWJFET4V SM23V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetPSW JFET Source Voltage (Ch 5) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 VERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84090000 <hex> 0 <hex> (Def)	
		Verify Telemetry PSWJFET5V SM24V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetPSW JFET Source Voltage (Ch 6) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 VERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 840A0000 <hex> 0 <hex> (Def)	

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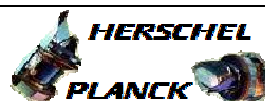
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry PSWJFET6V SM25V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetPMW JFET Source Voltage (Ch 1) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 VERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 840B0000 <hex> 0 <hex> (Def)	
		Verify Telemetry PMWJFET1V SM30V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetPMW JFET Source Voltage (Ch 2) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 VERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 840C0000 <hex> 0 <hex> (Def)	
		Verify Telemetry PMWJFET2V SM31V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetPMW JFET Source Voltage (Ch 3) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 VERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 840D0000 <hex> 0 <hex> (Def)	
		Verify Telemetry PMWJFET3V SM32V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetPMW JFET Source Voltage (Ch 4) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 VERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 840E0000 <hex> 0 <hex> (Def)	

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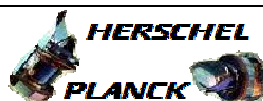
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry PMWJFET4V SM33V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetPLW JFET Source Voltage (Ch 1) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 840F0000 <hex> 0 <hex> (Def)	
		Verify Telemetry PLWJFET1V SM50V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetPLW JFET Source Voltage (Ch 2) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84100000 <hex> 0 <hex> (Def)	
		Verify Telemetry PLWJFET2V SM51V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetTC JFET Source Voltage SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84140000 <hex> 0 <hex> (Def)	
		Verify Telemetry TCJFETV SMT0V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to set Drain Bias Voltage settings SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84370000 <hex> 0 <hex> (Def)	

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry SPECJFETSTAT SMF0F510	= 0 <hex>	AND=SA_5_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84340000 <hex> 0 <hex> (Def)	
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetSSW JFET Source Voltage (Ch 1) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84350000 <hex> 0 <hex> (Def)	
		Verify Telemetry SSWJFET1V SM00V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetSSW JFET Source Voltage (Ch 2) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84360000 <hex> 0 <hex> (Def)	
		Verify Telemetry SSWJFET2V SM01V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetPhotoHeaterBias SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84110000 <hex> 0 <hex> (Def)	
		Verify Telemetry PHOTHTRV SMP0V510	= 0.0 V	AND=SA_5_559

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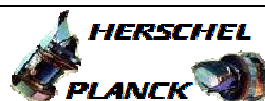
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetSpectroHeaterBias SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84330000 <hex> 0 <hex> (Def)	
		Verify Telemetry SPECHTRV SMF0V510	= 0.0 V	AND=SA_5_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetPhotoBias Ampl (SW Channels) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84010000 <hex> 0 <hex> (Def)	
		Verify Telemetry PSWBIAS SMB0V510	= 0.00 mV	AND=SA_2_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetPhotoBias Ampl (MW Channels) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84020000 <hex> 0 <hex> (Def)	
		Verify Telemetry PMWBIAS SMB1V510	= 0.0 mV	AND=SA_2_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetPhotoBias Ampl (LW Channels) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84030000 <hex> 0 <hex> (Def)	
		Verify Telemetry PLWBIAS SMB2V510	= 0.0 mV	AND=SA_2_559

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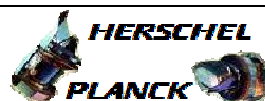
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetPhotoBias Ampl (TC Channels) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84040000 <hex> 0 <hex> (Def)	
		Verify Telemetry TCBIAS SMB3V510	= 0.0 mV	AND=SA_2_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetSpectroBiasAmpl (SW Channels) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84310000 <hex> 0 <hex> (Def)	
		Verify Telemetry SSWBIAS SMB4V510	= 0.0 mV	AND=SA_2_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetSpectroBiasAmpl (LW Channels) SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84320000 <hex> 0 <hex> (Def)	
		Verify Telemetry SLWBIAS SMB5V510	= 0.0 mV	AND=SA_2_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetSpectroBiasMode SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 843000FF <hex> 0 <hex> (Def)	
		Verify Telemetry SPECBIASMODE SMB1M510	= FF <hex>	AND=SA_2_559

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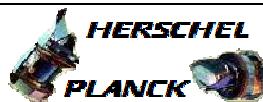
Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetPhotoBiasMode SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 840000FF <hex> 0 <hex> (Def)	
		Verify Telemetry PHOTBIASMODE SMB0M510	= FF <hex>	AND=SA_2_559
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetPhotoMClkDiv SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84190095 <hex> 0 <hex> (Def)	
		Verify Telemetry PHOTMCLKDIV SMB0H510	= 0095 <hex>	AND=SA_2_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetPhotoBiasDiv SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84180006 <hex> 0 <hex> (Def)	
		Verify Telemetry PHOTBIASDIV SMP0H510	= 0006 <hex>	AND=SA_5_559
	ET=+00.00.01 UT=+00.00.01	Send DRCU command to SetSpectroMClkDiv SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 8439007A <hex> 0 <hex> (Def)	
		Verify Telemetry SPECMCLKDIV SMB2H510	= 007A <hex>	AND=SA_2_559

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
	ET=+00.00.00 UT=+00.00.00	Send DRCU command to SetSpectroBiasDiv SEND_DRCU_COMMAND Command Parameter(s) : DRCUCOMMAND SPD4N505 OVERRIDE SPD9N505 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SCD06505 84380001 <hex> 0 <hex> (Def)	
		Verify Telemetry SPECBIASDIV SMF0H510	= 0001 <hex>	AND=SA_5_559
	ET=+00.00.01 UT=+00.00.01	SET_OBS_MODE SET_OBS_MODE Command Parameter(s) : OBSERVING_MODE SP02N500 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SC002500 100 <hex>	
		Verify Telemetry MODE SM00M500	= DRCU_ON	AND=SA_7_559
5		Verify end conditions		Next Step: END
	ET=+00.00.00 UT=+00.00.00	SET_BBID SET_BBID Command Parameter(s) : BUILDING_BLOCK_ID SP01N500 TC Control Flags : GBM IL DSE --- -- --- SSID : 370	SC001500 80000000 <hex>	
		Ensure that the following parameter is incrementing every 4 seconds TM2N SMT1N500		AND=SA_7_559
		Ensure that the following parameter is incrementing every 4 seconds THSK SM00T500		AND=SA_7_559
		Verify Telemetry BIASP5V SMB6V510	= 5.0 V	AND=SA_7_559
		Verify Telemetry BIASP9V SMB7V510	= 9.0 V	AND=SA_7_559
		Verify Telemetry BIASM9V SMB8V510	= 9.0 V	AND=SA_7_559
		Verify Telemetry SCUP5V SM_0V520	= 5.0 V	AND=SA_7_559

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Step No.	Time	Activity/Remarks	TC/TLM	Display/ Branch
		Verify Telemetry SCUP9V SM_1V520	= 9.0 V	AND=SA_7_559
		Verify Telemetry SCUM9V SM_2V520	= 9.0 V	AND=SA_7_559
End of Procedure				